

New York Grape Commodity Survey Targets 2017 Summary/Final Report

Project Leader: Tim Weigle, NYS IPM Program

Project Collaborators: Alice Wise¹, Libby Tarleton¹, Hans Walter Peterson², Jim O'Connell³ and Marc Fuchs⁴, ¹Suffolk County CCE Grape Program, ²Finger Lakes Regional Grape Program, ³Eastern New York Commercial Horticultural Program, ⁴Department of Plant Pathology and Plant-Microbe Biology, Cornell University

- **Grape Commodity Survey (GCS)**
 - *Lobesia botrana* – **European Grape Vine Moth (GVM)**
 - *Eupoecilia ambiguella* – **European Grape Berry Moth (EGBM)**
 - *Epiphyas postvittana* – **Light Brown Apple Moth (LBAM)**
 - *Planococcus ficus* – **Vine Mealybug (VMB)**
 - *Candidatus Phytoplasma australiense* – **Australian Grapevine Yellows**
 - *Candidatus Phytoplasma vitis* – **Flavescence doree**

The 2017 Grape Commodity Survey was conducted in conjunction with Cornell Cooperative Extension's NYS IPM Program and Grape Programs in the main growing regions of New York State; Lake Erie, Finger Lakes, Long Island and the Hudson Valley. Traps were placed in vineyards starting in June in all regions and were serviced biweekly 6 times. The three target moths involved in the survey are: European Grapevine Moth, European Grape Berry Moth, and Light Brown Apple Moth. An additional pest, Vine Mealybug or *Planococcus ficus*, was also scouted in the Finger Lakes, Long Island and Lake Erie areas.

386 traps were deployed in 42 vineyards total; 8 in the Hudson Valley, 10 in Long Island, 16 in the Finger Lakes Region and 8 in the Lake Erie Region. In addition traps were deployed in 4 nurseries total; 2 in the Finger Lakes Region and 2 in the Lake Erie Region.

1. European Grape Vine Moth (GVM) - *Lobesia botrana*

Delta traps and lures were deployed following the protocol of suspending the trap at a height of 3 feet in the grape trellis and at a distance of 6-feet into the 2nd row in from the SW corner of the vineyard. Vineyards that had been recently planted using vines sourced from California, and other west coast, nurseries were given priority for participation in the program. In vineyards consisting of multiple varieties, traps were placed in the southeast corner of each of the blocks where the variety changed. Traps were deployed in 8 vineyards in the Hudson Valley (Orange, Dutchess, and Ulster Counties) 10 in Long Island (Suffolk County), 16 in the Finger Lakes Region (Steuben, Ontario, and Yates Counties) and 8 in the Lake Erie Region (Chautauqua County). In addition traps were deployed in 4 nurseries total; 2 in the Finger Lakes Region (Ontario and Yates Counties) and 2 in the Lake Erie Region (Chautauqua County). 124 traps were placed by 4 project cooperators in these 42 vineyards and 4 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

1,303 moths were collected from the traps June through September (222 in Long Island, 349 in Hudson Valley, 463 in Finger Lakes, and 269 in Lake Erie). Prescreening as well as identification of suspected samples by the Insect Diagnostic Laboratory at Cornell found no

evidence of the European Grape Vine Moth. 6 traps with possible positive samples were submitted yielding 27 negative IDs for the target moth.

2. European Grape Berry Moth (EGBM) - *Eupoecilia ambiguella*

Pherocon 1C traps and lures were deployed following the protocol of suspending the trap at a height of 3 feet in the grape trellis at the end post of the 5th row in from the SW corner of the vineyard and the 5th row in from the SE corner of each vineyard surveyed. Traps were deployed in 8 vineyards in the Hudson Valley (Orange, Dutchess, and Ulster Counties) 10 in Long Island (Suffolk County), 16 in the Finger Lakes Region (Steuben, Ontario, and Yates Counties) and 8 in the Lake Erie Region (Chautauqua County). In addition traps were deployed in 4 nurseries total; 2 in the Finger Lakes Region (Ontario and Yates Counties) and 2 in the Lake Erie Region (Chautauqua County). 124 traps were placed by 4 project cooperators in these 42 vineyards and 4 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

5,409 moths were collected from the traps June through September (690 in Long Island, 1,324 in Hudson Valley, 1,556 in Finger Lakes, and 1,839 in Lake Erie). Prescreening as well as identification of suspected samples by the Insect Diagnostic Laboratory at Cornell found no evidence of the European Grape Berry Moth. 72 traps with possible positive samples were submitted yielding 1,202 negative IDs for the target moth.

3. Light Brown Apple Moth (LBAM) - *Epiphyas postvittana*

Delta traps and lures were deployed following the protocol of suspending the trap at a height of 3 feet in the grape trellis and at a distance of 6-foot into the 2nd row in from the SW corner of the vineyard. Vineyards that had been recently planted using vines sourced from California, and other west coast, nurseries were given priority for participation in the program. In vineyards consisting of multiple varieties, traps were placed in the southeast corner of each of the blocks where the variety changed. Traps were deployed in 8 vineyards in the Hudson Valley (Orange, Dutchess, and Ulster Counties) 10 in Long Island (Suffolk County), 16 in the Finger Lakes Region (Steuben, Ontario, and Yates Counties) and 8 in the Lake Erie Region (Chautauqua County). In addition traps were deployed in 4 nurseries total; 2 in the Finger Lakes Region (Ontario and Yates Counties) and 2 in the Lake Erie Region (Chautauqua County). 124 traps were placed by 4 project cooperators in these 42 vineyards and 4 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

2,036 moths were collected in the traps from June through September (206 in Long Island, 463 in Hudson Valley, 1,084 in Finger Lakes, and 283 in Lake Erie). Prescreening as well as identification of suspected samples by the Insect Diagnostic Laboratory at Cornell found no evidence of the Light Brown Apple Moth. 16 traps with possible positive samples were submitted yielding 126 negative IDs for the target moth.

4. Vine Mealybug (VMB) – *Planococcus ficus*

Pherocon 1C traps and lures were deployed following the protocol of suspending the trap at a height of 3 feet in the grape trellis at the end post of the 5th row in from the SW corner of the vineyard and the 5th row in from the SE corner of each vineyard surveyed. Traps were deployed in 10 vineyards in Long Island (Suffolk County). In addition traps were deployed

in 4 nurseries total; 2 in the Finger Lakes Region and 2 in the Lake Erie Region. 14 traps were placed by 3 project cooperators in these 10 vineyards and 4 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

106 samples were collected in the traps from June through September (99 in Long Island, 1 in Lake Erie, and 6 in Finger Lakes). Prescreening as well as identification of suspected samples by the Insect Diagnostic Laboratory at Cornell found no evidence of the Vine Mealybug. 2 traps with a possible positive sample were submitted yielding 1 negative ID, and one result still pending.

Visual Inspection for Spotted Laternfly

A visual inspection for Spotted Laternfly was conducted in late August through September in the same vineyards and nurseries used to conduct the Grape Commodity Survey. No evidence of Spotted Laternfly was found. At this scouting time, egg masses were the target as Spotted Laternfly lay egg masses of 30 – 50 eggs, covered in a brown, mud-like substance on smooth bark surfaces. Spotted Laternfly has a preference for Tree of Heaven/Paradise Tree (*Ailanthus altissima*) but there were no reports of the Tree of Heaven being found in proximity to the vineyards and nurseries scouted.

Visual Inspection for Australian Grapevine Yellows and Flavescence doree

A visual inspection for Australian Grapevine Yellows and Flavescence doree was conducted in the same vineyards and nurseries used to conduct the Grape Commodity Survey (GCS). Visual examinations were conducted in 8 vineyards in the Hudson Valley (Orange, Dutchess, and Ulster Counties) 10 in Long Island (Suffolk County), 16 in the Finger Lakes Region (Steuben, Ontario, and Yates Counties) and 8 in the Lake Erie Region (Chautauqua County). In addition visual examinations were done in 4 nurseries total; 2 in the Finger Lakes Region and 2 in the Lake Erie Region. There were no reports of Australian Grapevine Yellows or Flavescence doree in any of the 42 vineyards or 4 nurseries involved in the survey.

Virus Sampling in the 2017 Grape Commodity Survey Project

Virus sampling was done on an “as seen” basis. A visual inspection for Grapevine Red Blotch and leafroll was conducted in the same vineyards and nurseries used to conduct the Grape Commodity Survey (GCS). Visual examinations were conducted in 8 vineyards in the Hudson Valley (Orange, Dutchess, and Ulster Counties) 10 in Long Island (Suffolk County), 16 in the Finger Lakes Region (Steuben, Ontario, and Yates Counties) and 8 in the Lake Erie Region (Chautauqua County). In addition visual examinations were done in 4 nurseries total; 2 in the Finger Lakes Region and 2 in the Lake Erie Region. Some suspect vines have been sampled throughout the 2017 growing season and flagged for follow-up.

The viruses tested for include:

- **Grapevine Fanleaf Virus (GFLV).**
- **Arabis Mosaic Virus (ArMV).**
- **Tomato Ring Spot Virus/Grapevine Yellow Vein Disease (ToRSV).**

- **Tobacco Ringspot Virus (TRSV).**
- **Grapevine Virus A (GVA)**
- **Tomato Black Ring Virus (TBRV).**
- **Strawberry Latent Ringspot Virus (SLRSV).**
- **Raspberry Ringspot Virus (RpRSV).**
- **Grapevine Fleck Virus (GFkV).**
- **Grapevine Leafroll – associated virus type 1 (GLRaV-1).**
- **Grapevine Leafroll – associated virus type 2 (GLRaV-2).**
- **Grapevine Leafroll – associated virus type 3 (GLRaV-3**
- **Grapevine Leafroll – associated virus type 4 (GLRaV-4).**

Results:

72 samples were submitted from Suffolk County in Long Island. 13 samples were identified as positive for GLRaV-3(Grapevine Leafroll – associated virus type 3)

23 samples were submitted from Yates County in the Finger Lakes Region.

1 positive sample for GLRaV-1 (Grapevine Leafroll – associated virus type 1) only

1 positive sample for GLRaV-3 only

4 positive samples for both GLRaV-1 and GLRaV-3

In total 95 samples were submitted and 19 of those tested positive for one or more viruses.